We are living in a rapidly changing world, a changing national economy, and a changing agriculture. No part of society has escaped it. Improved technology has been the major driving force behind these changes. The agricultural problem is so closely interwoven into the framework of our national economy that our overall setting must be recognized and considered in the beginning.

Since the turn of the century, we have more than tripled per capita real income in the United States. At the same time, working hours have declined one-third.

The significant feature of the present period is not that we have had economic growth and progress but rather the nature and the rate at which it is now taking place. Growth and progress, however, do not come without their costs. Many painful adjustments are necessary. We used to assume when progress came more slowly that these adjustments would take care of themselves, but since the rate of progress has been speeded up, they have not, particularly in agriculture.

Agriculture has been in the forefront in this march of progress. It deserves much credit for this higher standard of living we all enjoy. If it took 70 percent of our people to produce our food as it did in the early days of this country, or as in India today, we would not have many people free to produce automobiles, television sets, and air conditioning.

It is my judgment that our society and agriculture will continue to insist on high rates of progress for three reasons:

1. Because our people like the fruits of progress.

2. We are engaged in a struggle to prove that our system has more to give to man than that system espoused by the Soviet Union--both from the standpoint of physical output and from the standpoint of the dignity of man.

3. Because of the universal urge within man to find an easier and a better way to do things.

If this assumption is valid, then we must recognize that new knowledge knows no boundaries, either industrially or geographically, and that the direction our educational efforts and the direction our farm programs should take is one of helping agriculture to adjust to this progress. And agriculture has been adjusting at a tremendous rate but not fast enough to avoid low incomes. Agriculture has not fully shared in the fruits of the progress in agriculture.
THE PROBLEM

There are two types of income problems in agriculture: (1) the income problem of the small farmer who lacks resources and who has such limited output that an improvement in prices has little effect on his income; and (2) the commercial family farmer whose income problem is largely one of price relationships. The two problems are interrelated, but solving the small farmer's inadequate resource problem would not solve the commercial family farmer's problem, nor would solving the price problem of the commercial family farmer solve the small farmer's problem.

Today I shall deal largely with the price and income problem of the commercial family farmer, even though the plight of both has largely resulted from technical progress.

During the past decade, agricultural output has increased at the rate of approximately 2.5 percent per year. Because of our growing population and improved diets, the domestic demand has increased slightly less than two percent per year. Neither has the increase in foreign exports nor the new industrial uses for farm products grown sufficiently to take up this gap. This leaves us at the beginning of the decade of the '60s with an agricultural plant geared to produce from four to nine percent more farm products than the present market will take at acceptable prices as expressed by Congress on numerous occasions. I use the range of four to nine percent because this covers the results of most all studies. And the amount of the surplus depends to some degree on the level of prices and the volume of exports assumed.

The real problem of agriculture is not the $9 billion worth of agricultural products in storage although this aggravates the situation, but rather that we have a plant geared to produce four to nine percent too much with reasonable prices.

Two events occurred in United States agriculture in recent years which have been largely responsible for bringing about this problem.

Near the close of World War I the rate of gain in agricultural output per farm worker began to exceed the rate of gain in population, making possible for the first time an absolute decline in the number of farm workers. The rate of gain in agricultural output per worker relative to the growth in the population has continued since that time at an accelerated rate during the 1950s. It continues to result in surplus human resources in agriculture despite the rapid flow of human resources out of agriculture.

At the beginning of the 1950s, the rate of increase in yields of crops per acre began to exceed the rate of increase in the population. During the decade of the '50s, yields of all crops per acre increased one-third, while demand for food to feed our growing population increased about one-fifth. It takes less acres to feed the population today than in 1950, therefore we now have a second resource, cropland, in surplus.
This situation holds true for each of these resources when improvement in levels of diets is added to the growth in population. This means that now unless new outlets are found for farm products, the optimum combination of resources at any reasonable level of prices involves both less human resources and less cultivated land than are now committed to agricultural production.

Because these resources have not moved out of production, the output of agriculture has tended to outrun demand for farm products at prices socially acceptable. Because the demand for total agricultural production is very inelastic, farmers are penalized severely when supplies exceed a level which reasonably meets requirements. This tendency for agriculture to overproduce since the 1920s, except for the war and postwar periods, is the heart of the agricultural price and income problem.

With present expected trends in the adoption of new technology, this situation appears likely to extend through the '60s unless through our education or action programs, we modify this situation.

This substitutability of resources in agriculture is sufficiently great that the reduction of output of one commodity or even several commodities results in the resources being transferred to the production of the nonlimited commodities. Thus the farm income and price problem is an aggregate problem. Attempting to solve it on a partial basis simply results in it being transferred from one group to another group of commodities.

POSSIBLE APPROACHES

There are three possible approaches that might be taken to aid in solving the farm problem: (1) Expand the outlets for farm products, (2) storage and payments to farmers to relieve the income situation, and (3) adjust the output.

Nearly everyone would like to solve the farm problem by expanding foreign outlets, using more farm products in industry, and by expanding the food consumption at home. If this could be done, then agriculture would not have to adjust its output, and we could continue full production with reasonable prices. However, while nearly all analysts of the farm problem believe we should continue to work vigorously for the expansion of the market for farm products both at home and abroad, they see expansion of the market as only a partial solution of the farm problem in the immediate period ahead. In the longer run, these possibilities may become more important.

By putting commodities into storage, and by making payments to farmers for shifting production, or for other purposes associated with production, we may ease the current income situation of farmers. However, unless these payments are made in a manner which brings about adjustments in supply, they simply relieve the income situation for the moment and continue the maladjustment problem. In fact they tend, if too large operations are undertaken, to increase the imbalance problem. This is what we have been doing, and the imbalance in agriculture has continued to increase,
even though many necessary adjustments have taken place. I mention this alternative because it is the one that we have followed, and we may continue to follow this to a degree.

The third possibility is one of attempting to adjust supply and the resources in agriculture while maintaining the current income situation. This is where the greatest interest in farm programs is now centered.

Here four approaches may be taken or some combination of them: (1) The use of quotas or supply management control on all commodities, (2) allow free prices to operate, (3) compulsory or mandatory land retirement, and (4) voluntary land retirement or land retirement where payments are made for the retirement of land and the choice of participating is left to the individual farmer. The limitation on capital inputs has been also proposed, but no serious program has been developed along these lines because of the difficulty and implications of limiting the various capital input items.

If any of the above four approaches are used for adjusting supply, they result in reducing both the manpower and the cultivated land used in agricultural production. If quotas are imposed on part of the commodities, then the surplus resources are transferred to other commodities and necessitate quotas on these commodities. If commodity quotas are imposed on all commodities and production is reduced, this means less human resources and less land used in crop production. If free prices are allowed to operate, then agricultural prices will fall to the point where the marginal land and the marginal producer will be forced to shift out of agriculture and it will reduce the use of these resources. If compulsory or mandatory cropland controls are used, it means less land will be under cultivation and it means less human resources will be needed. Even if the land is taken out on each farm, it will speed up the recombination of farms, and the reduction of both of these resources. If voluntary land retirement is used either on a partial or whole farm basis, it, too, will reduce the land under cultivation and the amount of human resources needed in agriculture. I want to point out that any of the supply adjustment programs seriously proposed do not escape the reduction of land and human resources. The problem, therefore, is how to most sensibly bring about a reduction of these resources.

Therefore, we need to give attention to programs which assist farm youth and farm labor to shift to other occupations with the least pain because it is the farm youth and the younger farmers who will make this adjustment. In most cases, those who have reached middle age will continue to find their best opportunities in agriculture.

We need to develop programs which most sensibly shift some of our surplus cultivated land from crop production into other uses such as timber production, pulpwood production, parks and recreational uses, grass, and conservation and watershed development. In appraising these shifts in land use, we must consider the short run social impacts and also the longer run interests of the community and the nation.
The United States has a total land area of approximately 1,904 million acres. Of this 450 million acres are in plow land. Approximately 965 million acres are in permanent hay and pasture. The remaining acreage is in non-pasture forest land, waste and non agricultural uses. Our present agricultural needs could be met with something like 60 million acres of the 450 million acres in plow land shifted to other uses. This indicates the magnitude of the adjustment needed in land use. Of course, how many acres would need to be shifted out would depend on the type of program adopted.

As I look ahead to the decade of the '60s, I see the likelihood of the following changes in agricultural resources regardless of the type of farm program:

(1) Cultivated land will continue to move out of crop production, perhaps to the extent of 40 to 80 million acres.
(2) Labor will continue to flow out of production into other occupations, perhaps at the rate of three-fourths or more of the youth.
(3) Capital used will increase.
(4) Capital inputs purchased outside of agriculture will increase.
(5) The management level will increase.

These are adjustments that technology is necessitating but which have not been taking place as rapidly as they should to avoid an income penalty for agriculture. Our problem is to develop programs which speed up these adjustments but which do not hold them in status quo.

SUMMARY

Technological advances in agriculture have created agricultural surpluses because of the failure of the human and land resources to adjust rapidly enough to offset the supply increasing effects of these advances. The government has spent vast sums for programs to protect farm incomes from the effects of these excessive supplies. It appears likely such programs will be continued. If they are, they should be directed toward the twin goals of not only protecting farm incomes but also bringing about the land and human resource adjustments that are necessary to bring the size of the agricultural plant into better equilibrium with the agricultural needs of society.